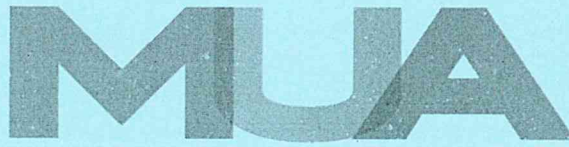


The
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UNDERGRADUATE UNIVERSITY EXAMINATIONS
SCHOOL OF MANAGEMENT AND LEADERSHIP
DEGREE OF BACHELOR OF ARTS IN DEVELOPMENT STUDIES

BDS 211: ENVIRONMENT AND DEVELOPMENT

DATE: 19TH JULY 2017

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. Write all your answers in the Examination answer booklet provided.

QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

WATER HYACINE CASE STUDY

The exact time and place of introduction has been debated, but the plant is native to South America so it appears to have reached Lake Victoria due to human activity. As its flowers are reputed for their beauty, it might have been brought over as an ornamental for garden ponds. The consensus is that water hyacinth entered Lake Victoria from Rwanda via the river Kagera, probably in the 1980s. The hyacinth has since spread prolifically, due to a lack of natural predators, an abundance of space, agreeable temperature conditions, and abundant nutrients, including increasing heavy metal pollution in the lake.

Water hyacinths increased rapidly between 1992–1998, were greatly reduced by 2001, and have since resurged to a lesser degree. Management techniques include (hyacinth-eating) insect controls and manual beach cleanup efforts. A water hyacinth infestation is seldom totally eradicated. Instead, it is a situation that must be continually managed.

Water hyacinth affects the Lake Victorian population in many negative ways. There are economic impacts when the weed blocks boat access. The effects on transportation and fishing are immediately felt. Where the weed is prolific, there is a general increase in several diseases, as the weed creates excellent breeding areas for mosquitoes and other insects. There are increased incidents of skin rash, cough, malaria, encephalitis, bilharzias, gastro intestinal disorders, and schistosomiasis.

Water hyacinth also interferes with water treatment, irrigation, and water supply. It can smother aquatic life by deoxygenating the water, and it reduces nutrients for young fish in sheltered bays. It has blocked supply intakes for the hydroelectric plant, interrupting electrical power for entire cities. The weed also interrupts local subsistence fishing, blocking access to the beaches.

There are also indications that water hyacinths can provide benefits to the Lake Victoria Region. Water hyacinths have been planted in an attempt to purify eutrophicated water. Once established, the plants can be harvested and used for biogas production, fertilizer, and other things.

Required

- a) Describe three challenges brought about by hyacine to lake Victoria fisher men and women (6 marks)
- b) Explain four effects of hyacine to bio-diversity (8 marks)
- c) Evaluate the three components of ecosystem in Lake Victoria (6 marks)
- d) Explain five benefits of hyacine to lake victoria residents (5 Marks)

QUESTION TWO

- a) Explain the term Geographic Information System (3 Marks)
- b) Describe Six components for quality natural resource management practices (12 Marks)

QUESTION THREE

- a) Explain Seven guidelines of land management practices (3 Marks)
- b) Describe Four precaution measures of management of biodiversity of natural resource management (12 Marks)

QUESTION FOUR

- a) Explain the term integrated natural resource management (3 Marks)
- b) Analyse Six reasons why population dynamics is a concern for sustainable development (12 Marks)

QUESTION FIVE

- a) Explain the term environmental science (3 Marks)
- b) Explain Six principles of environment as declared in RIO (12 Marks)

QUESTION SIX

- a) Describe the term non-renewable resources (3 Marks)
- b) Evaluate the Three pillars of sustainable development (6 Marks)
- c) Explain Three principles of sustainable development (6 Marks)